Protocol
C-5

SECTION: C-5

TITLE: Adult Wide-Complex Tachycardia

REVISED: August 1, 2013

Adult Wide-Complex Tachycardia

This protocol includes ventricular tachycardia with a pulse, Torsades with a pulse, and wide-complex tachycardias of unclear origin. When possible, a 12-lead may be helpful in determining rhythm origin.

BLS-Specific Care *See Adult General Cardiac Care and ACS Protocol C-3*

ILS-Specific Care *See Adult General Cardiac Care and ACS Protocol C-3*

ALS-Specific Care *See Adult General Cardiac Care and ACS Protocol C-3*

Cardioversion for hemodynamicaly UNSTABLE patients

- Settings for manual, synchronized cardioversion.
    - 200j ⇒ 300 j ⇒ 360j LP15
    - 100j => 150j => 200j MRx
    - Ensure "**SYNC**" button is pressed between each desired synchronized shock.
- If synchronization is not obtained, proceed with unsynchronized cardioversion at the same settings.
- Sedation/Analgesia prior to cardioversion is highly desirable, but not mandatory. If IV access cannot be obtained for prompt sedation, then cardioversion may be performed without sedation.
    - *See the Adult Pain Control and Sedation Protocol M-11 for medications and doses.*
    - Midazolam (Versed) is to only be used for sedation in cardioversion.

Antiarrhythmics

- Amiodarone
    - 150 mg IV infusion over 10 minutes. May repeat every 10 minutes as needed. Mix 150 mg in 20cc NS in a buretrol and drip at a rate of 120 gtts/min.
- Lidocaine (Xylocaine)
    - IV: 1-1.5 mg/kg, repeated at 0.5-0.75 mg/kg every 5 minutes for continued ectopy. Max. bolus of 3 mg/kg or 300 mg in 30 min.
    - Maintenance Infusion 2-4 mg/minute titrated for effect. Must bolus again with Lidocaine in 5-10 minutes after initiation of the drip to reach therapeutic levels unless max. bolus dose has been reached.

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- Adenosine (Adenocard): Consider Adenocard for **suspected SVT with aberrancy**. Use Lidocaine or Procainamide instead of Adenosine in cases of **known VT**.
    - IV: 6 mg **rapid IVP**,
    - Repeat at 12 mg in 3-5 minutes two times PRN (total 30 mg)
    - Follow each dose with a flush of at least 20-60 cc.

- For hemodynamically STABLE patients presenting with wide complex tachycardia, antidysrhythmic therapy is indicated. (continued)

- IV/IO Magnesium sulfate:
    - First line agent in treatment of hemodynamically stable polymorphic wide complex tachycardia (torsades de pointes.)
    - Also indicated in treatment of refractory VF, wide complex tachycardia in the presence of suspected hypomagnesmia and life threatening ventricular dysrhythmias due to suspected digitalis toxicity.
        - 1-2 g over 5 minutes.
        - Rapid administration of magnesium sulfate (i.e. rates>1 g/min) can cause hypotension and respiratory depression. Carefully monitor both during infusion.
    - To prepare:
        - 1-2 g diluted to 50 ml with NS in burette of Metriset administered IV over approximately 5 minutes.
        - Start infusion with roller-clamp half open and titrate to rate of approximately 10 ml/minute.

Consider sedation prior to cardioversion if it will not cause unnecessary delays.

- **DO NOT** administer if:
    - Systolic BP < 90 mmHg.
    - Low respiratory rate, SpO2 and/or diminished mental status.
- Versed (midazolzam) IV/IM/IO:
    - 0.5-2.5 mg.
    - Maximum 5 mg.

For hemodynamically UNSTABLE patients presenting with wide complex tachycardias, perform immediate synchronized DC cardioversion.

Physician Pearls